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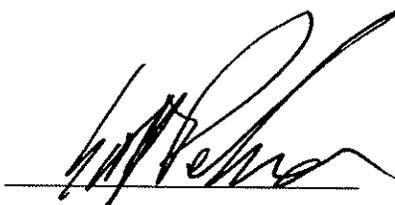
EXPERT REPORT

IN THE MATTER OF:

CHEMSOLV, INC and AUSTIN HOLDINGS-VA, L.L.C.

EPA DOCKET NO. RCRA-03-2011-0068

PREPARED BY:



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Faulkner & Flynn (F2) was retained by Chem-Solv, Inc. in 2008 to assist in addressing allegations made by the U.S. Environmental Protection Agency (EPA) and the Virginia Department of Environmental Quality (VDEQ). These allegations related to environmental compliance issues under the Resource Conservation and Recovery Act (RCRA), the Clean Air Act and the Emergency Planning and Community Right-To-Know Act. F2 performed a detailed analysis of Chem-Solv, Inc.'s operations to include several thorough site visits and interviews with employees. F2 also reviewed the allegations and related documentation provided by regulatory authorities. Based on this information, F2 assisted Chem-Solv, Inc. with preparing responses to EPA's initial Show Cause Letter and interfacing both with Chem-Solv, Inc. and its legal counsel and regulatory authorities. When EPA filed its Complaint in March, 2011, F2 reviewed the Complaint and performed a critical analysis based on our understanding of Chem-Solv, Inc. operations as well as on available documentation provided both by Chem-Solv, Inc. and the EPA. When EPA filed its Initial Prehearing Exchange in July, 2011, F2 reviewed the documentation and provided Chem-Solv, Inc. with an expert opinion regarding the validity of the original Complaint and supporting documentation. This expert opinion is based on not only the documentation presented by the EPA and F2's analysis of Chem-Solv, Inc. operations, but also on applicable EPA regulations under RCRA, EPA interpretative guidance (in the form of Faxbacks, guidance manuals, RCRA Online documentation on EPA's Internet site and professional organization's guidance documents. During this process, F2 has spoken directly with EPA and VDEQ personnel directly involved in the inspections of Chem-Solv, Inc. and in the enforcement action. Using this assembled information as a basis, this report details our opinion regarding the factual accuracy of the allegations.

The allegations against Chem-Solv, Inc. are premised on the following base assumptions or conclusions by the EPA:

1. Rinsewater in the 1,800-gallon holding tank (sometimes "pit") was a regulated waste;
2. Settled solids in the 1,800-gallon holding tank were a regulated waste;
3. Drummed sodium hydrosulfide was a waste;
4. Empty aerosol cans in a solid waste receptacle had not been characterized; and
5. Rinsewater and settled solids samples collected by the EPA properly characterized these materials.

All five of these bases are incorrect. Specific facts rebutting each of these five assumptions are provided. Prior to presenting these facts, it is important to note that the Resource Conservation and Recovery Act (RCRA) provides management requirements only for substances that are: 1) determined to be "solid waste"; and 2) further determined to meet one of the "hazardous waste" definitions. All of the EPA's allegations are fully dependant on each of the substances being a "solid waste". With the exception of Count II (Failure to Make Waste Determinations), all of the EPA's allegations are also fully dependant on each of the substances meeting one of the "hazardous waste" definitions. For example, Count IV (Failure to Obtain a Tank Assessment), is not relevant if the material in the tank is not a "solid waste" or is otherwise excluded from regulation. Consequently, concluding the relevant substances are not a "solid waste," do not meet the "hazardous waste" criteria or are otherwise excluded from

regulation eliminates the need to specifically address the detailed allegations (e.g., Failure to Obtain a Tank Assessment). As a result, this discussion is limited to rebutting the five flawed assumptions identified above.

Rinsewater in the 1,800-gallon holding tank was not a regulated waste

During the period in question Chem-Solv, Inc. operated a drum rinsing operation as illustrated in Exhibit 1. Chem-Solv, Inc.'s business includes repackaging chemicals from bulk storage containers such as tanks and tanker trucks into 55-gallon drums. At the time of the inspection, these 55-gallon drums were rinsed off with the primary intent being the removal of dust and dirt accumulated on the exterior surface during storage of the empty drums outdoors. It is acknowledged that there were occasionally chemical residues on the outside of these drums as well. Rinsewater was initially collected in the sub-grade 1,800-gallon tank ("the tank"). It was transferred from this tank to an aboveground 6,000-gallon tank. This accumulated rinsewater was passed through particulate filters to protect the pumps and then reused for rinse operations. The system was designed and implemented in this fashion to conserve water to serve as a cost-saving measure. The system is described in more detail in Exhibit 2.

During winter months, the rinsewater was further used as a raw ingredient in the creation of a water and glycol-based anti-freezing product called FreezeCon. FreezeCon was used during this period by the coal industry and was applied directly to coal during loading onto rail cars for transportation. Exhibit 3 provides Chem-Solv, Inc. "Batch Tickets" that reference rinsewater being used. Exhibit 4 provides FreezeCon sales data demonstrating the ongoing production of this product during winter months. Exhibit 5 provides the FreezeCon MSDS and Product Data Sheet. This production process is described in more detail in Exhibit 2.

Further to the point of violation, it is important to examine the character of the tank from a regulatory point of view. The tank in question was considered a Manufacturing Process Unit (MPU) as opposed to a waste tank. As stated in 40 CFR 261.4(c) (Exhibit 6), materials in an MPU are generally not subject to regulation under RCRA (to include the hazardous waste determination requirement in 40 CFR 262.11, the permitting requirements in 40 CFR 270 and the tank requirements in 40 CFR 265, Subpart J). The EPA has routinely clarified its intent not to regulate potentially hazardous wastes in tanks that are integral to a process, such as is the case with the Chem-Solv, Inc. rinsewater holding tank. Exhibit 7 provides the original intent of EPA's rulemaking in 1980 with relevant excerpts highlighted in yellow. Exhibit 8 clarifies that the EPA did not intend to apply containment requirements to hazardous wastes in MPU's until that waste is removed for disposal. Exhibit 9 similarly clarifies that 40 CFR Parts 262 through 265 were not intended to apply to these wastes until "they exit the manufacturing process". With regards to Chem-Solv, Inc.'s rinsewater holding tank, this means that when the rinsewater was physically removed from the tank for disposal it became a regulated waste. Finally, the highlighted sections of Exhibit 10 provide additional clarification that the EPA intended "to provide relief for instances when, for example, the point of hazardous waste generation could be the manufacturing process unit itself", which is clearly the case with the rinsewater holding tank.

To be clear, the 40 CFR 261.4(c) MPU exemption specifically applies to every regulatory citation referenced by the EPA with regards to the rinsewater, to include Count I (Failure to Obtain a Permit – 40 CFR 270), Count II (Failure to Make Waste Determinations – 40 CFR 262.11), Count III (Failure to Have Secondary Containment – 40 CFR 264.193), Count IV (Failure to Obtain a Tank Assessment – 40 CFR 264.192), Count V (Failure to Conduct and/or Document Inspections – 40 CFR 264.195) and Count VII (Failure to Properly Close a Regulated Tank – 40 CFR 264.197).

Settled solids in the 1,800-gallon holding tank were not a regulated waste

The EPA reportedly observed settled solids in the 1,800-gallon rinsewater holding tank that it determined were solid waste that required characterization. It furthermore alleged that as a result of EPA's sample collection and analysis, these settled solids were hazardous waste that was being improperly managed. As described above, the tank held rinsewater that was used for washing the outside of the 55-gallon drums and, during the winter, was feedstock for FreezeCon production. It was not a waste tank.

As discussed above, the rinsewater holding tank was considered an MPU. Consequently, as with the rinsewater itself, the settled solids would not be regulated as a hazardous waste until removed for disposal.

To be clear, the 40 CFR 261.4(c) MPU exemption specifically applies to every regulatory citation referenced by the EPA with regards to the settled solids, to include Count I (Failure to Obtain a Permit – 40 CFR 270), Count II (Failure to Make Waste Determinations – 40 CFR 262.11), Count III (Failure to Have Secondary Containment – 40 CFR 264.193), Count IV (Failure to Obtain a Tank Assessment – 40 CFR 264.192), Count V (Failure to Conduct and/or Document Inspections – 40 CFR 264.195), Count VI (Failure to Comply with Subpart CC Standards for Tanks – 40 CFR 264.1080) and Count VII (Failure to Properly Close a Regulated Tank – 40 CFR 264.197).

Furthermore, to EPA's specific allegation that this wastestream had not been characterized (Count II, Paragraph 42), it should be noted that settled solids had, in fact, been characterized previously by Chem-Solv, Inc. and this information was conveyed to the EPA in the November 16, 2007 response to EPA's Request for Information (Exhibit 11). Samples collected in May, 2006 of settled solids removed from the rinsewater tank (Exhibit 12) show that the settled solids did not meet the regulatory definition of hazardous waste. It was this sampling result that dictated future settled solids management.

Drummed sodium hydrosulfide was not a waste

The EPA reportedly observed a 55-gallon drum of sodium hydrosulfide on May 23, 2007 that they claim was shipped off-site as a hazardous waste on February 20, 2008. Even though some sodium hydrosulfide was shipped off-site as a hazardous waste on February 20, 2008 it was not a hazardous waste on May 23, 2007. The drum observed by the EPA on May 23, 2007 was one of several partial

drums of sodium hydrosulfide product that were in storage. The EPA neglected to observe the other partial drums. In the Virginia Department of Environmental Quality (VDEQ) site visit report (Exhibit 13), the VDEQ stated that they were told that Chem-Solv, Inc. would “test the material, and if it was ‘good’, the material will be put back into product inventory.” This evaluation was in fact performed and the material was found to be usable product. Chem-Solv, Inc. then combined several partially full drums (including the one viewed by the EPA) into three drums. A customer was contacted in February, 2008 to determine whether they wanted the product. This customer, C.H. Patrick & Co., Inc., indicated they could commit to purchasing two of the drums, but would not require delivery until the fall of 2008. Once Chem-Solv, Inc. understood that some, but not all, of the sodium hydrosulfide would be sold to this customer later in the year, they decided to dispose of the remainder of the product, rather than continue to store it. This decision to dispose of the remaining material was based on Chem-Solv, Inc.’s perception that the EPA was concerned about this particular product and that the EPA might have issues with it remaining on site, despite that fact that it was a marketable product. Consequently, on February 20, 2008, the same month that C.H. Patrick made their intentions clear, the unneeded 55-gallon drum of sodium hydrosulfide was shipped off-site as a hazardous waste to EQ Detroit under hazardous waste manifest #004172819 JJK (Exhibit 14). Eight months later, in October, 2008 the desired 447 pounds of sodium hydrosulfide (in two drums) were shipped to C.H. Patrick & Co., Inc. as planned. The sales invoice is included as Exhibit 15. The EPA inquired about the sodium hydrosulfide in their February 4, 2008 Request for Information (Exhibit 16). They specifically asked for a “waste determination and any chemical analysis” for the single 55-gallon container that they viewed on May 23, 2007. Chem-Solv, Inc. responded (Exhibit 17) by stating “no waste determination made.” This statement was accurate since the drum viewed by the EPA had been combined with other drums after having been determined to be a usable product. Of the resulting three drums, two were sold and the other subjected to a waste determination and disposed as a hazardous waste. Exhibit 2 provides a substantiating discussion of these details.

Empty aerosol cans in the solid waste receptacle had been properly characterized

The EPA has alleged that Chem-Solv, Inc. did not properly characterize aerosol cans that they observed in a solid waste receptacle. This is not accurate. Chem-Solv, Inc. previously determined that aerosol cans emptied of their contents using standard means (e.g., depressing the spray nozzle until nothing more comes out) met and meet the RCRA definition of “empty” as defined in 40 CFR 261.7 (Exhibit 18). Chem-Solv, Inc. determined that each relevant element of the “empty” definition had been satisfied. Personnel had been instructed to only deposit fully empty aerosol cans into the solid waste receptacles. Any non-empty aerosol cans were used until they were, in fact, empty, or, in the case of an inoperable aerosol can, they were returned to the vendor (Exhibit 2).

Rinsewater and settled solids samples collected by the EPA did not properly characterize these materials

Even if the EPA were correct in their allegation that the rinsewater and settled solids in the 1,800-gallon holding tank were wastes, the analytical results presented as evidence that these wastes met the

hazardous waste definition do not meet the EPA's own standards for sampling and analysis. The sampling methodology was flawed for a number of reasons as detailed below.

To ensure that potentially hazardous wastes are sampled and analyzed in a reliable and defensible manner, the EPA has both promulgated regulations and published guidance (and has referenced other professional organization's guidance, such as the American Society for Testing and Materials [ASTM]) providing detailed sampling requirements. The EPA's methods did not conform to either these regulatory requirements or the published guidance and thus generated analytical results that are not representative of the referenced waste streams. Consequently, these results cannot be used for waste determination purposes or as a basis for regulatory enforcement.

Settled Solids Sampling –

The EPA sampled the settled solids in the 1,800-gallon rinsewater holding tank using what they described in Exhibit 19 as a "stainless [steel bottom] scrape." The actual sample collection technique was described by the EPA as follows:

Essentially, the entire piece of equipment was thrust into the solids to be sampled and through an arching motion [sic]. The scrape was brought to the surface, with the open side up, to retain the sludge. The excess liquid was decanted...The equipment was thrust to the bottom of the pit until resistance prevented further penetration. The actual depth was not recorded. The area of the pit collected was from the center to the [sic] where the EPA inspector stood while collecting the sample. The sample was a composite sample in that a number of dips were made to attain sufficient quantity of material. The field observations of the sample are that it was a wet, solid material with some soft lumps and pieces of material.

The EPA further states, in its October 20, 2010 letter (Exhibit 20) that "the pit contained over 50% solids at the time of May 23, 2007 inspection." The subject tank was approximately seven to eight feet in depth (the bottom of the tank was convex), resulting in approximately 3.5 feet of settled solids according to the EPA. Chem-Solv, Inc. believes there were less settled solids than that based on observations made when the settled solids were removed several months later (Exhibit 2). Regardless of the actual depth of settled solids, using the sampling device as described could not possibly have resulted in a representative sampling of the entire depth of the settled solids. The settled solid composition would vary significantly over the depth of the solids as these solids were deposited over an extended period of time from rinsing operations involving a large variety of drums. The EPA's sampling device and the geometry of the tank preclude the possibility that the EPA could have sampled the entire depth of the settled solids. The tank was surrounded by a four foot high concrete wall and was seven to eight feet deep. An individual reaching over the wall with a five- to seven-foot pole (Exhibit 2) would not be able to reach the surface of the settled solids in the center of the tank, much less sample the deeper layers. Similarly, at the edge of the tank, the sampler would not be able to penetrate to the bottom of the tank. Exhibit 21 provides a graphical representation of the geometry of the sampling.

Furthermore, by using a scooping device that conveyed the sample up through the column of water, the resulting sample was a combination of the settled solids as well as the overlying water column. For all of these reasons the samples collected were not “representative.”

To understand the appropriate sampling methodology that should have been used one must start with the EPA promulgated regulations at 40 CFR 261.20 (Exhibit 22) that state that samples collected using methods listed in Appendix I of 40 CFR 261 will be considered to be “representative”. Appendix I (Exhibit 23) does not provide appropriate methods for settled solids sampling from tanks of this type. Therefore, an appropriate secondary reference is the EPA Tank Sampling SOP#2010 (Exhibit 24). This reference includes, in Section 7.3, appropriate sampling procedures for settled solids of this type. Specifically, the reference includes two relevant statements. First, “Determine the depth of any and all liquid, solid and liquid/solid interface, and depth of sludge using a weighted tape measure, probe line, sludge judge or equivalent.” There is no evidence that this was accomplished. In fact, EPA field notes collected at the date and time the settled solids sample was collected (May 23, 2007 at 19:15) (Exhibit 25) provide no detail regarding any of these requirements. There is a remarkable lack of detail regarding sample collection methodology or field observations, in direct violation of Section 9.0, which states that “all data must be documented on field data sheets or within site logbooks”. EPA Tank Sampling SOP#2010 goes on to state that “Sludges can be collected using a bacon bomb sampler, glass thief, or sludge judge.” These devices are specifically intended to allow the sampler to sample the entire depth of the waste stream and bring it to the surface unimpacted by the overlying water column, something the EPA could not have done with the device they chose to use. The end result of these direct contradictions to published EPA sampling guidance are samples that are in no way representative of the waste stream sampled and are consequently not usable for a waste determination.

Rinsewater Sampling -

The EPA sampled the rinsewater in the 1,800-gallon rinsewater holding tank using what they described in Exhibit 19 as a “swing sampler.” The actual sample collection technique was described as follows:

The bottle was attached to a swing sampler and dipped into the pit. The sample was collected from the surface to just below the surface. The sampling container was attached to the end of a pole. The equipment is called a swing sampler. The end is manufactured to attach a container for sampling. The liquid appearance was: the liquid was turbid, brown color, minimal solids, single phase, and no discernable temperature.”

As with the settled solids discussion above, to understand the appropriate sampling methodology that should have been used, one must start with the EPA promulgated regulations at 40 CFR 261.20 (Exhibit 22) that stipulate that samples collected using methods listed in Appendix I of 40 CFR 261 will be considered to be “representative”. Appendix I (Exhibit 23) states that a Coliwasa would be considered acceptable to obtain a representative sample. ASTM D5495-03, the Standard Practice for Sampling with a Composite Liquid Waste Sampler (Coliwasa) (Exhibit 26), provides a detailed discussion of the coliwasa sampling device and its appropriateness for this situation. It states, “The Coliwasa is an appropriate

device for obtaining a representative sample from stratified or unstratified liquids. Its most common use is for sampling containerized liquids, such as tanks, barrels and drums. It may also be used for pools and other open bodies of stagnant liquid.” A swing sampler is not considered appropriate. The EPA’s RCRA Waste Sampling Draft Technical Guidance document (Exhibit 27) describes a swing sampler as a “surface sampler”, which is how the EPA used it. It is not used for liquid waste streams when a representative sample relative to depth is required. The EPA neglected to determine to what degree the liquid column varied with depth, they simply assumed the liquid at the surface represented the entirety of the water column. Their claim that the sample was “single phase” is unsupported given their failure to view the entire water column (the foam and floating solids on the surface as seen in the photograph in Exhibit 28 are alone enough to refute any allegation that they viewed the entire water column). The principle of sampling the entirety of the depth of the water column is reinforced by the sampling guidance provided in ASTM D5358-93 (Exhibit 29) which provides the “Standard Practice for Sampling with a Dipper or Pond Sampler”. It states, “this practice will not provide accurate results with multiphase liquids” and “No attempt should be made to take subsurface samples with a dipper because mixing and dilution will occur as the dipper is brought to the surface. Subsurface layers must be sampled using a device that can be closed prior bringing it to the surface (for example a coliwasa, tube sampler, or bottle sampler. The dipper is not appropriate for sampling multiphase liquids if quantitative characterization is needed.” Again, because the EPA made no effort to determine to what degree the liquid column was stratified, the analytical results cannot be considered representative. The simple fact that there were settled solids in the bottom of the tank and floating solids on the surface (see the EPA photograph in Exhibit 28) indicates that stratification was obvious. Finally, the same limitations regarding the lack of documentation noted in the settled solids sampling discussion above shed further doubt on the results.